

Application No.: 09/835,649

Docket No.: 00-VE2435

REMARKS

Claims 1-3 and 6-57 are pending. Claims 1, 18, 25, 39, 46, 48, 50, 53, 55, 56, and 57 are independent claims. Claims 4-5 were previously canceled without prejudice. Claims 25-45 and 48-57 are allowed. Claims 9-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Claims 7-8 have been rejected under 35 U.S.C. § 112. Claims 1-2 and 6 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. 5,568,181 ("Greenwood"). Claims 3, 7-8, 12-24, and 46-47 have been rejected under 35 U.S.C. § 103(a) as obvious over Greenwood in various combinations with U.S. 6,483,805 ("Davies"), U.S. 6,775,271 ("Johnson"), and U.S. 6,185,187 ("Ghanwani").

Claim 7 is amended to cure the afore-mentioned rejection under Section 112. Claim 14 is amended to correct a typographical error. No other claims are amended or cancelled by way of this paper. For the reasons stated herein, Applicant traverses the rejection of claims 1-3, 6-24, and 46-47, and respectfully submits that all pending claims are in condition for allowance.

I. Section 102 Rejections

Independent claim 1, and claims 2 and 6 depending therefrom, were rejected as allegedly anticipated by Greenwood. Independent claim 1 recites

A method of replicating content data stored on a central content server to at least one local content server, comprising the steps of:
determining unused bandwidth on a common link of an access data network carrying subscriber traffic and over which the central content server located in a hub site and the at least one local content server located in a central office communicate; and
transmitting content data stored on the central content server to the at least one local content server substantially on the determined unused bandwidth.

For the reasons stated below, Applicant respectfully submits that Greenwood fails to read on numerous recited elements of independent claim 1.

Greenwood teaches a wide area server 10 that has access to a complete video library 11. (Greenwood, Fig. 1.) Via a wide area network (WAN) 13, a local area server 14 receives multimedia files from the wide area server 10, the multimedia files being stored in a local area video cache 15 and served to video display stations 17 via a local area network (LAN) 16. (Greenwood, Fig. 1.) Greenwood does not transmit video data unless a request for a particular video file is received by local area server 14 in step 31 of Greenwood's Figure 3. (Greenwood, 3:64 – 4:5.) Greenwood explains that

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If . . . the requested video file is not in the local cache when the request is received . . . , decision box 33 is entered where it is determined whether or not adequate bandwidth is available in WAN 13 to transmit the video file from the library 11 to the local cache similar to cache 15 in FIG. 1, in sufficient time to meet the schedule. If sufficient bandwidth is not available to transfer the video file in time to meet the schedule, as determined by box 33, box 37 is entered to return a rejection of the request, or an alternative schedule, to the requesting station.

(Greenwood, 5:18-28)

Claim 1, in contrast, recites "a method of replicating content data stored on a central content server to at least one local content server," and recites no requirement that a request be received for any of the recited content data. This and other differences between Greenwood and the requirements of claim 1 negate any argument that Greenwood anticipates claim 1.

A. "determining unused bandwidth . . ."

Claim 1 requires, among other limitations, "determining unused bandwidth on a common link of an access data network . . ." Contrary to the Examiner's reasoning (Office Action, page 3), Greenwood's teaching of determining whether "adequate bandwidth" is available (Greenwood, 5:20) does not read on "determining unused bandwidth." Claim 1 on its face requires simply making a determination of how much bandwidth is available for the transmission of content data for the purpose of making efficient use of such unused bandwidth. Greenwood, in contrast, requires "adequate bandwidth" for the transmission of a particular requested video file. (Greenwood, 5:20-21.) Thus, Greenwood's bandwidth determination is entirely different from the determination required by claim 1, because the determination required by claim 1 is simply a determination of unused bandwidth, not a determination of whether there is unused bandwidth adequate to some purpose, which is what Greenwood teaches. Moreover, Greenwood would not have suggested the determination required by claim 1 to one of ordinary skill in the art because Greenwood is entirely directed toward determining whether there is sufficient bandwidth to transmit a particular video file in response to a particular request – elements which are simply not present in claim 1.

For at least the foregoing reasons, claim 1, and also claims 2-3 and 6-17, depending therefrom, are in condition for allowance.

B. "the at least one local content server located in a central office"

Claim 1 requires, among other limitations, "determining unused bandwidth on a common link of an access data network carrying subscriber traffic and over which the central content server located in a hub site and the at least one local content server *located in a central office*

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communicate." (Emphasis added.) At a minimum, Greenwood fails to teach or suggest a local content server – or any server – located at a central office.

The Examiner (Office Action, page 3) alleges that the "central content server" recited in claim 1 is anticipated by Greenwood's wide area server 10, and that the "local content server" recited in claim 1 is anticipated by Greenwood's local area server 14. Greenwood's local area server 14 "forms an interface" between LAN 16 and WAN 13. (Greenwood, 3:12-14.) However, Greenwood in no way teaches or suggests that local area server 14 be located in a central office. The extent of the network infrastructure taught by Greenwood is found in Figure 1 which, as discussed above, teaches WAN 13, wide area server 10, LAN 16, and local area server 14, but makes absolutely no disclosure about where any of these elements are located. Indeed, Greenwood could not have suggested locating a server in a central office to one of ordinary skill in the art because Greenwood discloses absolutely no infrastructure for delivering subscriber services.

For at least the foregoing reasons, claim 1, and also claims 2-3 and 6-17, depending therefrom, are in condition for allowance.

C. **"transmitting content data . . . substantially on the determined unused bandwidth"**

Claim 1 requires, among other limitations, "transmitting content data stored on the central content server to the at least one local content server substantially on the determined unused bandwidth." The Examiner (Office Action, page 3) alleges that Greenwood anticipates this claim limitation by disclosing a determination of the availability of bandwidth in step 33 of Figure 3. However, Greenwood actually teaches against the quoted limitation of claim 1 because, as discussed above, what Greenwood actually teaches is that content data may not be transmitted under certain circumstances, *i.e.*, when "adequate bandwidth" is lacking for the transmission of a particular video file. Accordingly, Greenwood does not anticipate transmitting content data "substantially on the determined unused bandwidth" because Greenwood teaches that video data will not be transmitted at all absent "adequate bandwidth", and further teaches that, if video data is transmitted, such transmission will be in response to a request.

The request for a particular video file is clearly central to Greenwood's entire system, the entire purpose of which is to fulfill requests for video files. (*E.g.*, Greenwood, Figs. 2-5; 2:10-21.) As noted above, Greenwood does not teach or suggest "determining unused bandwidth" as is required by claim 1. However, even if Greenwood did contain such a teaching, Greenwood

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would still teach away from claim 1. Claim 1, as noted above, does not require any request for content data prior to its transmission from the central content server to the local content server. However, Greenwood, which requires a request for a particular video file before making any determination regarding bandwidth, would have suggested to one of ordinary skill that there was no point in simply transmitting content data when there had been no request for such data. Accordingly, Greenwood would have directed one of ordinary skill in the art away from the limitation in claim 1 of "transmitting content data stored on the central content server to the at least one local content server substantially on the determined unused bandwidth."

For at least the foregoing reasons, claim 1, and also claims 2-3 and 6-17, depending therefrom, are in condition for allowance.

II. Section 103 Rejections

A. Deficiencies of Greenwood

Independent claim 18 was rejected as obvious over Greenwood in view of Davies. (Office Action, page 8.) Independent claim 46 was rejected as obvious over Greenwood in view of Johnson. (Office Action, page 4.) Applicant respectfully submits that claims 18 and 46 are patentable over Greenwood for at least the reasons provided above regarding Greenwood's failure to anticipate claim 1. Accordingly, claims 18 and 46, and also claims 19-24 and 47 depending respectively therefrom, are in condition for allowance.

B. Lack of *Prima Facie* Case of Obviousness regarding Claim 18

Claim 18 requires, among other limitations, "a congestion mechanism for determining unused bandwidth on a portion of a common link of an access data network carrying subscriber traffic and over which the first server and the at least one second server communicate." In order to make up for Greenwood's acknowledged failure to teach or suggest a "congestion mechanism," the Examiner proposes to modify Greenwood with Davies, which allegedly does teach the recited congestion mechanism. (Office Action, page 9.)

Assuming *arguendo* that Davies teaches the recited congestion mechanism, the Examiner has failed to state a *prima facie* case for the combination of Greenwood and Davies for at least two reasons: (1) the Examiner has not provided a motivation in either reference to combine them, and (2) the proposed combination of the two references fails to teach each and every element of claim 18. To meet his or her burden of stating a *prima facie* case of obviousness, the Examiner must meet the following requirements:

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First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2142.

Here, the Examiner simply asserts, without explanation or citation to any prior art of record, that one of ordinary skill in the art would have seen the congestion mechanism allegedly disclosed by Davies and found a modification of Greenwood with Davies' alleged congestion mechanism to be obvious. Applicant requests that the Examiner provide an explanation of such alleged motivation. Further, to the extent the Examiner is taking Official Notice that such a motivation allegedly existed, Applicant seasonably requests that the Examiner provide documentary evidence to support the taking of Official Notice as is required by 37 CFR § 1.104(d)(2) and MPEP § 2144.03. In the absence of a prior art teaching of the requisite motivation to modify Greenwood with Davies, Applicant respectfully requests that the rejection of claim 18 be withdrawn.

Further, the Examiner has failed to meet the third element of a *prima facie* case of obviousness because the cited references do not teach all of Applicant's claim limitations. The Examiner acknowledges that Greenwood does not teach the recited "congestion mechanism," but neither does Davies. In fact, Davies teaches no more than monitoring network traffic by measuring the number of packets belonging to one of three classes received in a telecommunications network. (Davies, Abstract.) The portion of Davies cited by the Examiner as disclosing a congestion mechanism in fact teaches no more than acknowledging the receipt of packets to increase system reliability. (Davies, 8:48-52.) Davies is wholly silent as to a "congestion mechanism" that might make a network more efficient such as is recited in claim 1. Accordingly, even if Davies could be combined with Greenwood, such a combination would not teach all the elements of claim 18, in particular, a "congestion mechanism."

For at least the foregoing reasons, claim 18, and also claims 19-24 depending therefrom, is in condition for allowance.

C. Lack of *Prima Facie* Case of Obviousness regarding Claim 46

Claim 46 requires, among other limitations:

transmitting the content data stored on the at least one local content server to at least one end user terminal proximate to the at least one local content server, wherein the step of transmitting the content data stored on the at least one second server to the at least one end user terminal comprises the steps of:

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transmitting the content data stored on the at least one second server to a data switch proximate to the at least one second server;

integrating the content data transmitted from the at least one second server with the other data destined to the at least one end user terminal received at the data switch via the common link, and

distributing the integrated data from the data switch to a link to equipment of the at least one end user terminal via a multiplexer.

The Examiner acknowledges that Greenwood fails to teach the afore-quoted steps required by claim 46, and cites Johnson as making up for the acknowledged deficiencies of Greenwood. (Office Action, pages 6-7.) However, assuming *arguendo* that Johnson teaches limitations not found in Greenwood (which point Applicant does not concede), the Examiner has nonetheless failed to state a *prima facie* case of obviousness in rejecting claim 46 at least because the Examiner has provided no motivation for one of ordinary skill in the art to have modified Greenwood with Johnson.

Regarding a motivation to combine Greenwood and Johnson, the Office Action alleges no more than one of ordinary skill would have recognized that that Greenwood could have been modified with Johnson, and that therefore it would have been obvious to do so. (Office Action, page 7.) As discussed above regarding claim 18, such an allegation is insufficient to state a motivation to combine references. To the extent the Examiner is taking Official Notice that a motivation allegedly existed for the combination of Greenwood and Johnson, Applicant requests that the Examiner provide an explanation of such motivation and further reasonably requests that the Examiner provide documentary evidence to support the taking of Official Notice as is required by 37 CFR § 1.104(d)(2) and MPEP § 2144.03. In the absence of a prior art teaching of the requisite motivation to modify Greenwood with Johnson, Applicant respectfully requests that the rejection of claim 46 be withdrawn.

For at least the foregoing reasons, claim 46, and also claim 47 depending therefrom, is in condition for allowance.

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CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner believes that a personal interview with Applicants' representative would advance prosecution of this application, the Examiner is invited to telephone the undersigned.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 07-2347, under Order No. 00-VE24.35, from which the undersigned is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136 is hereby made, the fee for which should be charged to the foregoing account.

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Respectfully submitted,

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